

**California Air Resources Board (ARB)
Suggested Control Measure for Architectural Coatings**

RULE _____ ARCHITECTURAL COATINGS

1. APPLICABILITY

- 1.1 Except as provided in subsection 1.2, ~~the provisions of this rule are~~ is applicable to any person who supplies, sells, offers for sale, ~~or manufactures applies, or solicits the application of any architectural coating, or who manufactures any architectural coating for use within the District, as well as any person who applies or solicits the application of any architectural coating within the District.~~
- 1.2 ~~The provisions of t~~ This rule does not apply to: ~~any architectural coating described in subsections 1.2.1 through 1.2.3~~
- 1.2.1 ~~A~~ Any architectural coating that is manufactured for use outside of the District or for shipment to other manufacturers for repackaging.
- 1.2.2 ~~A coating that is an~~ Any aerosol coating product.
- 1.2.3 ~~A~~ Any architectural coating that is sold in a container with a volume of one liter or less.

2. DEFINITIONS

- 2.0 Adhesive: Any chemical substance that is applied for the purpose of bonding two surfaces together other than by mechanical means.
- 2.1 Aerosol Coating Product: A pressurized ~~spray system that dispenses product ingredients by means of a propellant or mechanically induced force.~~ “Aerosol Product” does not include pump sprays coating product containing pigments or resins that dispenses product ingredients by means of a propellant, and is packaged in a disposable can for hand-held application, or for use in specialized equipment for ground traffic marking applications.
- 2.2 Appurtenance: Any accessory to a stationary structure coated at the site of installation, whether installed or detached, including but not limited to: bathroom and kitchen fixtures; cabinets; concrete forms; doors; elevators; fences; hand railings; heating equipment, air conditioning equipment, and other fixed mechanical equipment or stationary tools; lampposts; partitions; pipes and piping systems; rain gutters and downspouts; stairways, fixed ladders, catwalks, and fire escapes; and window screens.

- 2.3 Architectural Coating: A coating recommended for application to stationary structures and their appurtenances at the site of installation, to portable buildings at the site of installation, to pavements, or to curbs. Coatings applied in shop applications or to non-stationary structures such as airplanes, ships, boats, railcars, and automobiles, and adhesives are not considered architectural coatings for the purposes of this rule.
- 2.4 ~~Bituminous Coating~~ Bitumens: ~~A coating formulated and recommended for roofing, pavement sealing, or waterproofing that incorporates bitumens. "Bitumens" are b~~Black or brown materials including, but not limited to, asphalt, tar, pitch, and asphaltite that are soluble in carbon disulfide, consist mainly of hydrocarbons, and are obtained from natural deposits or as residues from the distillation of crude petroleum or coal.
- 2.4a Bituminous Roof Coating: A coating formulated and recommended for roofing that incorporates bitumens.
- 2.5 Bond Breaker: A coating formulated and recommended for application between layers of concrete to prevent a freshly poured top layer of concrete from bonding to the layer over which it is poured.
- 2.5a Clear Brushing Lacquers: Clear wood finishes, excluding clear lacquer sanding sealers, formulated with nitrocellulose or synthetic resins to dry by solvent evaporation without chemical reaction and to provide a solid, protective film, and which are intended exclusively for application by brush.
- 2.6 Clear Wood Coatings: Clear and semi-transparent coatings, including lacquers and varnishes, applied to wood substrates to provide a transparent or translucent solid film.
- 2.7 Coating: A material applied onto or impregnated into a substrate for protective, decorative, or functional purposes. Such materials include, but are not limited to, paints, varnishes, sealers, and stains.
- 2.8 Colorant: A concentrated pigment dispersion in water, solvent, and/or binder that is added to an architectural coating ~~in a paint store or at the site of application~~ to produce the desired color.
- 2.9 Concrete Curing Compound: A coating formulated and recommended for application to freshly poured concrete to retard the evaporation of water.
- 2.10 Dry Fog Coating: A coating formulated and recommended only for spray application such that overspray droplets dry before subsequent contact with incidental surfaces in the vicinity of the surface coating activity.
- 2.11 Exempt Solvent: A compound identified as exempt under the definition of Volatile Organic Compounds (VOC), subsection 2.43.

- 2.12 Fire-Retardant Coating: A coating which is fire tested and rated by an approved laboratory, and is used to bring building and construction materials into compliance with state and local fire building code requirements. ~~formulated and recommended to have a flame spread index of less than 25 when tested in accordance with American Society for Testing and Materials (ASTM) Designation E-84-87, "Standard Test Method for Surface Burning Characteristics of Building Material" after application to Douglas fir according to the manufacturer's recommendations (incorporated by reference--see section 5)~~
- 2.13 Flat Coating: A coating that is not defined under any other definition in this rule and that registers gloss less than 15 on an 85-degree meter or less than 5 on a 60-degree meter according to ASTM Designation D 523-89, "Standard Test Method for Specular Gloss," (date), (incorporated by reference-- in see section 5.).
- 2.14 Floor Coating: An opaque coating that is formulated and recommended for application to flooring including, but not limited to, decks, porches, and steps, for the purposes of abrasion resistance.
- 2.15 Form-Release Compound: A coating formulated and recommended for application to a concrete form to prevent the freshly poured concrete from bonding to the form. The form may consist of wood, metal, or some material other than concrete.
- 2.16 Graphic Arts Coating or Sign Paint: A coating formulated and recommended for hand-application by artists using brush or roller techniques to indoor and outdoor signs (excluding structural components) and murals including lettering enamels, poster colors, copy blockers, and bulletin enamels.
- 2.17 High-Temperature Coating: A high performance coating formulated, recommended, and used for application to substrates exposed continuously or intermittently to temperatures above 204°C (400°F).
- 2.18 Industrial Maintenance Coating: A high performance architectural coating, including primers, sealers, undercoaters, intermediate coats, and topcoats, formulated and recommended for application to substrates exposed to one or more of the following extreme environmental conditions listed in subsections 2.18.1 through 2.18.5 ~~in an industrial, commercial, or institutional setting~~:
- 2.18.1 Immersion in water, wastewater, or chemical solutions (aqueous and non-aqueous solutions), or chronic exposure of interior surfaces to moisture condensation;
 - 2.18.2 Acute or chronic exposure to corrosive, caustic or acidic agents, or to chemicals, chemical fumes, or chemical mixtures or solutions;
 - 2.18.3 Repeated exposure to temperatures above 121°C (250°F);
 - 2.18.4 Repeated (frequent) heavy abrasion, including mechanical wear and repeated (frequent) scrubbing with industrial solvents, cleansers, or scouring agents; or
 - 2.18.5 Exterior exposure of metal structures and structural components.
- 2.19 Lacquer: A clear or opaque wood coating, including clear lacquer sanding sealers,

formulated with cellulosic or synthetic resins to dry by evaporation without chemical reaction and to provide a solid, protective film. Lacquer stains are considered stains, not lacquers.

- 2.20 Low Solids Coating: A coating containing 0.12 kilogram or less of solids per liter (1 pound or less of solids per gallon) of coating material and for which at least half of the volatile component, by volume, is water.
- 2.21 Magnesite Cement Coating: A coating formulated and recommended for application to magnesite cement decking to protect the magnesite cement substrate from erosion by water.
- 2.22 Mastic Texture Coating: A coating formulated and recommended to cover holes and minor cracks and to conceal surface irregularities, and is applied in a single coat of at least 10 mils (0.010 inch) dry film thickness.
- 2.23 Metallic Pigmented Coating: A coating containing at least 48 grams of elemental metallic pigment per liter of coating as applied (0.4 pounds per gallon), ~~excluding zinc~~.
- 2.24 Multi-Color Coating: A coating that is packaged in a single container and applied in a single coat which exhibits more than one color when applied.
- 2.25 Nonflat Coating: A coating that is not defined under any other definition in this rule and that registers a gloss of 15 or greater on an 85-degree meter or 5 or greater on a 60-degree meter according to ASTM Designation D 523-89, "Standard Test Method for Specular Gloss," (date), (incorporated by reference ~~in~~ see section 5.).
- 2.26 Pre-treatment Wash Primer: A primer that contains a minimum of 0.5 percent acid, by weight, that is formulated and recommended for application directly to bare metal surfaces to provide corrosion resistance and to promote adhesion of subsequent topcoats.
- 2.27 Primer: A coating formulated and recommended for application to a substrate to provide a firm bond between the substrate and subsequent coats.
- 2.28 Quick-Dry Enamel: A nonflat coating that has the following characteristics:
 - 2.28.1 Is capable of being applied directly from the container under normal conditions with ambient temperatures between 16 and 27°C (60 and 80°F);
 - 2.28.2 When tested in accordance with ASTM Designation D 1640-83 (Reapproved 1989), "Standard Test Methods for Drying, Curing, or Film Formation of Organic Coatings at Room Temperature," (date), (incorporated by reference in section 5.), sets to touch in 2 hours or less, is tack free in 4 hours or less, and dries hard in 8 hours or less by the mechanical test method; and
 - 2.28.3 Has a dried film gloss of 70 or above on a 60 degree meter.
- 2.28a Quick-Dry Primer, Sealer, and Undercoater: A primer, sealer, or undercoater that is dry to the touch in a ½ hour and can be recoated in 2 hours when tested in accordance with

ASTM Method D 1640-83 (Reapproved 1989), "Standard Test Methods for Drying, Curing, or Film Formation of Organic Coatings at Room Temperature," (date), (incorporated by reference in subpart 5.).

- 2.29 Residential Use: Use in areas where people reside or lodge including, but not limited to, single and multiple family dwellings, condominiums, mobile homes, apartment complexes, motels, and hotels.
- 2.30 Roof Coating: A non-bituminous coating formulated and recommended for application to exterior roofs for the primary purpose of preventing penetration of the substrate by water or reflecting heat and reflecting ultraviolet radiation. Metallic pigmented roof coatings which qualify as metallic pigmented coatings shall not be considered to be in this category, but shall be considered to be in the metallic pigmented coatings category.
- 2.31 Rust Preventative Coating: A coating formulated and recommended for use in preventing the corrosion of ~~ferrous~~ metal surfaces in residential situations.
- 2.32 Sanding Sealer: A clear wood coating formulated and recommended for application to bare wood to seal the wood and to provide a coat that can be sanded to create a smooth surface. A sanding sealer that also meets the definition of a lacquer is not included in this category, but is included in the lacquer category.
- 2.33 Sealer: A coating formulated and recommended for application to a substrate for one or more of the following purposes: to prevent subsequent coatings from being absorbed by the substrate; to prevent harm to subsequent coatings by materials in the substrate; or to block stains, odors, or efflorescence; ~~to seal fire, smoke, or water damage; or to condition chalky surfaces.~~
- 2.34 Shellac: A clear or opaque coating formulated solely with ~~natural resins (except nitrocellulose resins) soluble in alcohol (including, but not limited to,~~ the resinous secretions of the lac beetle; (*Laciffer lacca*), thinned with alcohol, and formulated to ~~Shellacs dry by evaporation without a chemical reaction and provide a quick-drying, solid protective film that may be used for blocking stains.~~
- 2.36 Shop Application: A coating is applied to a product or a component of a product in a factory or shop as part of a manufacturing, production, or repairing process (e.g., original equipment manufacturing coatings).
- 2.35 Solicit: To require for use or to specify, by written or oral contract.
- 2.36a Specialty Primer: A coating formulated and recommended for application to a substrate; to seal fire, smoke or water damage; or to condition excessively chalky surfaces. An excessively chalky surface is one that is defined as having chalk rating of four or less as determined by ASTM Determination D-4214, "Photographic Reference Standard No. 1," (date), or the Federation of Societies for Coatings Technology "Pictorial Standards for Coatings Defects," (date).

- 2.37 Stain: An opaque or semitransparent coating formulated to change the color of a surface but not conceal the surface grain pattern or texture. This includes lacquer stains.
- 2.38 Swimming Pool Coating: A coating formulated and recommended to coat the interior of swimming pools and to resist swimming pool chemicals.
- 2.38a Swimming Pool Repair and Maintenance Coating: A chlorinated rubber based coating used for the repair and maintenance of swimming pools over existing chlorinated rubber based coatings.
- 2.39 Tint Base: An architectural coating to which colorant is added ~~in a paint store or at the site of application~~ to produce a desired color.
- 2.40 Traffic Marking Coating: A coating formulated and recommended for marking and striping streets, highways, or other traffic surfaces including, but not limited to, curbs, berms, driveways, parking lots, sidewalks, and airport runways.
- 2.41 Undercoater: A coating formulated and recommended to provide a smooth surface for subsequent coatings.
- 2.42 Varnish: A clear or semi-transparent coating, excluding lacquers and shellacs, formulated and recommended to provide a durable, solid, protective film. Varnishes may contain small amounts of pigment to color a surface, or to control the final sheen or gloss of the finish.
- 2.43 Volatile Organic Compound (VOC): Any compound of carbon, which may be emitted to the atmosphere during the application of and or subsequent drying or curing of coatings subject to this rule, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, and excluding the following:
- 2.43.1 methane;
methylene chloride (dichloromethane);
1,1,1-trichloroethane (methyl chloroform);
trichlorofluoromethane (CFC-11);
dichlorodifluoromethane (CFC-12);
1,1,2-trichloro-1,2,2-trifluoroethane (CFC-113);
1,2-dichloro-1,1,2,2-tetrafluoroethane (CFC-114);
chloropentafluoroethane (CFC-115);
chlorodifluoromethane (HCFC-22);
1,1,1-trifluoro-2,2-dichloroethane (HCFC-123);
2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124);
1,1-dichloro-1-fluoroethane (HCFC-141b);
1-chloro-1,1-difluoroethane (HCFC-142b);
trifluoromethane (HFC-23);
pentafluoroethane (HFC-125);
1,1,2,2-tetrafluoroethane (HFC-134);
1,1,1,2-tetrafluoroethane (HFC-134a);

1,1,1-trifluoroethane (HFC-143a);
1,1-difluoroethane (HFC-152a);
cyclic, branched, or linear completely methylated siloxanes;
the following classes of perfluorocarbons:
(A) cyclic, branched, or linear, completely fluorinated alkanes;
(B) cyclic, branched, or linear, completely fluorinated ethers with no unsaturations;
(C) cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations; and
(D) sulfur-containing perfluorocarbons with no unsaturations and with the sulfur bonds only to carbon and fluorine; and

2.43.2 the following low-reactive organic compounds which have been exempted by the U.S. EPA:

acetone;
ethane; ~~and~~
parachlorobenzotrifluoride (1-chloro-4-trifluoromethyl benzene);
perchloroethylene; and
methyl acetate.

- 2.44 VOC Content: The weight of VOC per volume of coating, calculated according to the procedures specified in subsection 5.1.
- 2.45 Waterproofing Wood Sealer: A coating formulated and recommended for application to a wood substrate for the primary purpose of preventing the penetration of water.
- 2.46 Waterproofing Concrete/Masonry Sealer: A clear or pigmented coating that is formulated for sealing concrete and masonry to provide resistance against water, alkalis, acids, ultraviolet light, and staining.
- 2.47 Wood Preservative: A coating formulated and recommended to protect wood from decay or insect attack, and which contains a wood preservative chemical that is registered with the ~~United States Environmental Protection Agency (U.S. EPA)~~ under the Federal Insecticide, Fungicide, and Rodenticide Act (7 United States Code (U.S.C.) Section 136, *et seq.*) and that is registered with the California Department of Pesticide Regulation.

3. STANDARDS

- 3.1 **VOC Content Limits:** Except as provided in subsections 3.2 and 3.3, no person shall, within the District, supply, offer for sale, sell, apply, or solicit the application of any architectural coating listed in Table 1 which contains VOC ~~(less water and exempt solvents, and excluding any colorant added to tint bases)~~ in excess of the corresponding limit specified in ~~the~~ Table 1, after the corresponding date specified, or manufacture, blend, or repackage such a coating for use within the District.
- 3.2 **Most Restrictive VOC Limit:** If anywhere on the container of any architectural coating, or any label or sticker affixed to the container, or in any sales, advertising, or

technical literature supplied by a manufacturer or anyone acting on their behalf, any representation is made that indicates that the coating meets the definition of or is recommended for use for more than one of the coating categories listed in Table 1, then the most restrictive VOC content limit shall apply. This provision does not apply to subsections 3.2.1 through 3.2.610

- 3.3.1 Lacquer coatings (including lacquer sanding sealers) that are also recommended for use in other architectural coating applications to wood, except as stains, are subject only to the VOC content limit in Table 1 for lacquers.
- 3.3.2 Metallic pigmented coatings that are recommended for use as high temperature coatings, roof coatings, industrial maintenance coatings, or primers are subject only to the VOC content limit in Table 1 for metallic pigmented coatings.
- 3.3.3 Shellacs that are also recommended for use as any other architectural coating are subject only to the VOC content limit in Table 1 for shellacs.
- 3.3.4 Fire-retardant coatings that are also recommended for use as any other architectural coating are subject only to the VOC content limit in Table 1 for fire-retardant coatings.
- 3.3.5 Pretreatment wash primers that are also recommended for use as primers or that meet the definition for industrial maintenance coatings are subject only to the VOC content limit in Table 1 for pretreatment wash primers.
- 3.3.6 Industrial maintenance coatings that are also recommended for use as primers, sealers, or undercoaters are subject only to the VOC content limit in Table 1 for industrial maintenance coatings.
- 3.3.7 Varnishes that are recommended for use as floor coatings are subject only to the VOC content limit in Table 1 for varnishes.
- 3.3.8 Waterproofing sealers that also meet the definition for quick-dry sealers are subject only to the VOC content limit in Table 1 for waterproofing sealers.
- 3.3.9 Sanding sealers that also meet the definition for quick-dry sealers are subject only to the VOC content limit in Table 1 for sanding sealers.
- 3.3.10 Rust preventative coatings that also meet the definition for industrial maintenance coatings are subject only to the VOC content limit in Table 1 for rust preventative coatings.
- ~~3.2.1 Lacquer sanding sealers are subject only to the VOC content limit in Table 1 for lacquers.~~
- ~~3.2.2 Metallic pigmented coatings that meet the definition of or are recommended for~~

~~use as roof coatings, industrial maintenance coatings, or primers are subject only to the VOC content limit in Table 1 for metallic pigmented coatings.~~

~~3.2.3 Shellacs that meet the definition of or are recommended for use as any other architectural coating are subject only to the VOC content limit in Table 1 for shellacs.~~

~~3.2.4 Pre-treatment wash primers that meet the definition of or are recommended for use as primers or that meet the definition for industrial maintenance coatings are subject only to the VOC content limit in Table 1 for pre-treatment wash primers.~~

~~3.2.5 Industrial maintenance coatings that meet the definition of or are recommended for use as primers, sealers, undercoaters, or mastic texture coatings are subject only to the VOC content limit in Table 1 for industrial maintenance coatings.~~

~~3.2.6 High temperature coatings that meet the definition of or are recommended for use as industrial maintenance coatings are subject only to the VOC content limit in Table 1 for high temperature coatings.~~

3.3 **Sell-Through Provision:** ~~The Sale, supply, offer for sale or application~~ of a coating manufactured prior to the effective date of the corresponding standard in Table 1, and not complying with that standard, shall not constitute a violation of subsection 3.1 until three years after the effective date of the standard; ~~nor shall application of such a coating.~~ This subsection does not apply to any coating that does not display the date or date-code required by subsection 4.1.1.

3.4 **Painting Practices:** All architectural coating containers used to apply the contents therein to a surface directly from ~~said~~ the container by pouring, siphoning, brushing, rolling, padding, ragging or other means, shall be closed when not in use. These architectural coating containers include, but ~~should~~ are not ~~be~~ limited to, drums, buckets, cans, pails, trays or other application containers. Containers of any VOC-containing materials used for thinning and cleanup shall also be closed when not in use. "Not in use" includes, but is not limited to, any interruption, delay, completion of transfer of ~~said~~ the contents, or termination of ~~said~~ the application.

3.5 **Thinning:** Any person who applies or solicits the application of any architectural coating within the District shall follow the manufacturer's recommendation regarding thinning of the coating under normal environmental and application conditions as described in subsection 4.1.2. This recommendation shall not apply to the thinning of architectural coatings with water. No person who applies or solicits the application of any architectural coating shall apply a coating that is thinned to exceed the applicable VOC limit in Table 1.

3.6 **Industrial Maintenance and Rust Preventative Coatings:** Any person who applies or solicits the application of any architectural coating within the District shall follow the manufacturer's recommendation regarding industrial maintenance coatings as described

in subsection 4.1.5. No person who applies or solicits the application of any architectural coating shall apply an industrial maintenance coating in or on a residence as defined in subsection 2.29 or in or on areas of industrial, commercial, or institutional facilities not exposed to the extreme environmental conditions identified in subsection 2.18, such as office space and meeting rooms. No person shall apply or solicit the application of any rust-preventative coating for industrial use.

- 3.7 **Coatings Not Listed in Table 1:** For any coating that ~~cannot be classified as a~~ does not meet any of the definitions for the categoryies listed in Table 1, the VOC content limit shall be determined by classifying the coating as a flat coating or a nonflat coating, based on its gloss, as defined in subsections 2.13 and 2.25, and the corresponding flat or nonflat VOC limit shall apply.

- 3.8 **No New Uses of Toxic Exempt Compounds:** No person shall supply, sell, offer for sale, manufacture, apply, or solicit the application of any architectural coating that contains any of the following compounds, which have been identified by the California Air Resources Board (ARB) as toxic air contaminants: 1,1,1-trichloroethane, perchloroethylene, methylene chloride. This provision does not apply to any existing product formulation, or any existing product formulation that is reformulated to meet the VOC limits specified in Table 1, as long as the percentage of toxic air contaminants in the reformulated coating does not increase. For the purposes of this subsection, an "existing product formulation" means any product formulation that is supplied, sold, offered for sale, manufactured for sale in California prior to (date of adoption).

4. CONTAINER LABELING REQUIREMENTS

- 4.1 Each manufacturer of any architectural coating subject to ~~the provisions of this subsection rule~~ shall ~~provide~~ display the information listed in subsections 4.1.1 through 4.1.5 on the coating container in which the coating is sold or distributed.
- 4.1.1 **Date Code:** The date the coating was manufactured, or a date code representing the date shall be indicated on the label, lid, or bottom of the container. ~~Each If the manufacturer of such uses a date code for any coatings, the manufacturer shall file an explanation of each code with the Air Pollution Control Officer and the Executive Officer of the California Air Resources Board (ARB), an explanation of each code.~~
- 4.1.2 **Thinning Recommendations:** A statement of the manufacturer's recommendation regarding thinning of the coating shall be indicated on the label or lid of the container. This requirement does not apply to the thinning of architectural coatings with water. If thinning of the coating prior to use is not necessary, the recommendation must specify that the coating is to be applied without thinning.
- 4.1.3 **VOC Content:** Each container of any coating subject to this rule shall display the maximum VOC content of the coating, as applied, and after any thinning as

recommended by the manufacturer. VOC content shall be displayed in grams of VOC per liter of coating (less water and exempt solvent, and excluding any colorant added to tint bases). VOC content displayed shall be calculated using product formulation data, or shall be determined using the test methods in subsection 5.2. The equations in subsection 5.1 shall be used to calculate VOC content.

~~4.1.4 **Coating Category Designation:** Each container of any coating subject to this rule shall display on the label or lid of the container the applicable coating category with which the coating is required to comply, as listed in Table 1. Alternatively, this information shall be displayed on a product data sheet for the coating.~~

4.1.5 **Industrial Maintenance Coatings:** In addition to the information specified in subsection 4.1, each manufacturer of any industrial maintenance coating subject to the provisions of this ~~subsection~~ rule shall display on the label or lid of the container in which the coating is sold or distributed one or more of the descriptions listed in subsections 4.1.5.1 through 4.1.5.4.

4.1.5.1 "For industrial use only."

4.1.5.2 "For professional use only."

4.1.5.3 "Not for residential use" or "Not intended for residential use."

4.1.5.4 "This coating is intended for use under the following condition(s):" (Include each condition in subsections 4.1.5.4.1 through 4.1.5.4.5 that applies to the coating.)

4.1.5.4.1 Immersion in water, wastewater, or chemical solutions (aqueous and nonaqueous solutions), or chronic exposure of interior surfaces to moisture condensation;

4.1.5.4.2 Acute or chronic exposure to corrosive, caustic, or acidic agents, or to chemicals, chemical fumes, or chemical mixtures or solutions;

4.1.5.4.3 Repeated exposure to temperatures above 121°C (250°F);

4.1.5.4.4 Repeated (frequent) heavy abrasion, including mechanical wear and repeated (frequent) scrubbing with industrial solvents, cleaners, or scouring agents; or

4.1.5.4.5 Exterior exposure of metal structures and structural components.

4.1.6 **Clear Brushing Lacquers:** Each container of this category shall have explicit label instructions that the product is formulated for brush application only, and that reduction and/or spraying is not permitted.

4.1.7 **Quick-Dry:** The coating container label or container shall include the words "Quick-Dry" or shall list the following:

4.1.7.1 The recoat time for quick-dry primers, sealers, and undercoaters, or

4.1.7.2 The dry-hard time for quick-dry enamels.

Containers and container labels shall not contain the words “Quick-Dry” unless the material meets the dry times specified in the respective definitions or the material complies with the respective general VOC limit for enamels or primers, sealers, and undercoaters.

4.1.8 **Rust Preventative Coatings:** The labels of rust preventative coatings shall include the statement “For Metal Substrates Only” prominently displayed, effective July 1, 2002.

4.1.9 **Specialty Primers:** The labels of all specialty primers shall include the statement “For Fire-, Smoke-, Water-Damaged, or Excessively Chalky Substrates Only” prominently displayed, effective July 1, 2002.

5. COMPLIANCE PROVISIONS AND TEST METHODS

5.1 **Calculation of VOC Content:** For the purpose of determining compliance with the VOC content limits in Table 1, the VOC content of a coating shall be determined by using the procedures described in subsection 5.1.1 or 5.1.2, as appropriate. The VOC content of a tint base shall be determined without colorant that is added after the tint base is manufactured.

5.1.1 With the exception of low solids coatings, determine the VOC content in grams of VOC per liter of coating thinned to the manufacturer's maximum recommendation, excluding the volume of any water and exempt compounds. Calculate the VOC content using equation 1 as follows:

$$\text{VOC Content} = \frac{(W_s - W_w - W_{ec})}{(V_m - V_w - V_{ec})} \quad (1)$$

Where:

VOC content	=	grams of VOC per liter of coating
W_s	=	weight of volatiles, in grams
W_w	=	weight of water, in grams
W_{ec}	=	weight of exempt compounds, in grams
V_m	=	volume of coating, in liters
V_w	=	volume of water, in liters
V_{ec}	=	volume of exempt compounds, in liters

5.1.2 For low solids coatings, determine the VOC content in units of grams of VOC per liter of coating thinned to the manufacturer's maximum recommendation, including the volume of any water and exempt compounds. Calculate the VOC

content using equation 2 as follows:

$$\text{VOC Content}_{\text{ls}} = \frac{(W_s - W_w - W_{ec})}{(V_m)} \quad (2)$$

Where:

$\text{VOC content}_{\text{ls}}$	=	the VOC content of a low solids coating in grams of VOC per liter of coating
W_s	=	weight of volatiles, in grams
W_w	=	weight of water, in grams
W_{ec}	=	weight of exempt compounds, in grams
V_m	=	volume of coating, in liters

5.2 **VOC Content of Coatings:** To determine the composition of a coating in order to perform the calculations in subsection 5.1, the reference method for VOC content is Method 24 of appendix A of 40 Code of Federal Regulations (CFR) part 60, “Determination of Volatile Matter Content, Water Content, Density, Volume Solids, and Weight Solids of Surface Coatings,” (date) (which is incorporated by reference herein), except as provided in subsections 5.3; and 5.4; and 5.5. An alternative method to determine the VOC content of coatings is South Coast Air Quality Management District (SCAQMD) Method 304, which is incorporated by reference in subsection 5.5.10 herein. The exempt compounds content shall be determined by SCAQMD Method 303, incorporated by reference in subsection 5.5.9. To determine the VOC content of a coating, the manufacturer may use Method 24 of Appendix A of 40 CFR part 60, or an alternative method as provided in subsection 5.3, formulation data, or any other reasonable means for predicting that the coating has been formulated as intended (e.g., quality assurance checks, recordkeeping). However, if there are any inconsistencies between the results of a Method 24 test and any other means for determining VOC content, the Method 24 test results will govern, except when an alternative method is approved by the ARB and the U.S. EPA as an alternative to Method 24 as specified in subsection 5.3. The District Air Pollution Control Officer (APCO) may require the manufacturer to conduct a Method 24 analysis.

5.2a **Clear Brushing Lacquers:** Manufacturers of clear brushing lacquers shall, within three months of the end of each calendar year, submit an annual report to the District APCO and the Executive Officer of the ARB reporting the number of gallons of such coatings sold in the District during the preceding year.

5.2b **Rust Preventative Coatings:** Manufacturers of rust preventative coatings shall, within three months of the end of each calendar year, submit an annual report to the District APCO and the Executive Officer of the ARB reporting the number of gallons of such coatings sold in the District during the preceding year.

5.2c **Specialty Primers:** Manufacturers of specialty primers shall, within three months of the end of each calendar year, submit an annual report to the District APCO and the

Executive Officer of the ARB reporting the number of gallons of such coatings sold in the District during the preceding year.

- 5.3 **Alternative Test Methods:** Other test methods demonstrated to provide results that are acceptable for purposes of determining compliance with subsection 5.2, after review and approved in writing by the staffs of the District, the ARB, and the U.S. EPA, ~~and approved in writing by the District APCO~~, may also be used.

- 5.4 **Methacrylate Traffic Marking Coatings:** Analysis of methacrylate multicomponent coatings used as traffic marking coatings shall be conducted according to the procedures specified in 40 CFR part 59, subpart D, appendix A, "Determination of Volatile Matter Content of Methacrylate Multicomponent Coatings Used as Traffic Marking Coatings," (date). This method is a modification of Method 24 of appendix A of 40 CFR part 60, and it has not been approved for methacrylate multicomponent coatings used for other purposes than as traffic marking coatings or for other classes of multicomponent coatings.

- ~~5.5 **Methods Incorporated by Reference:** The materials listed in this subsection are incorporated by reference in the subsections noted:~~

- 5.5 **Test Methods:** For the purpose of this rule, the following test methods shall be used:

~~5.5.1 **Flame Spread Index:** American Society for Testing and Materials (ASTM) Designation E 84-91A, Standard Test Method for Surface Burning Characteristics of Building Material, incorporation by reference approved for section 2., Fire Retardant Coating.~~

5.5.2 **Gloss Determination:** The gloss of a coating subject to the provisions of this rule shall be determined by ASTM Designation D 523-89, "Standard Test Method for Specular Gloss," (date), incorporationed by reference ~~approved for~~ in section 2., Flat Coating, Nonflat Coating, and Quick-Dry Enamel.

~~5.5.3 **Low Solids Coatings:** Bay Area Air Quality Management District (BAAQMD) Method 31, Determination of Volatile Organic Compounds in Paint Strippers, Solvent Cleaners, and Low Solids Coatings, BAAQMD Manual of Procedures, Volume III, amended 4/15/92, incorporation by reference approved for section 2., Low Solids Coatings.~~

5.5.4 **Metal Content of Coatings:** The metallic content of a coating subject to the provisions of this rule shall be determined by SCAQMD Method 311-91, "Determination of Percent Metal in Metallic Coatings by Spectrographic Method," (date), incorporationed by reference ~~approved for~~ in section 2., Metallic Pigmented Coating.

5.5.5 **Acid Content of Coatings:** The acid content of a coating subject to the provisions of this rule shall be determined by ASTM Designation D 1613-85,

“Acidity in Volatile Solvents and Chemical Intermediates Used in Paint, Varnish, Lacquer, and Related Products,” (date), incorporation~~ed~~ by reference approved for in section 2., Pre-treatment Wash Primer.

- 5.5.6 **Drying Times:** The set-to-touch, dry-hard, dry-to-touch, and dry-to-recoat times of a coating subject to the provisions of this rule shall be determined by ASTM Designation D 1640-83 (Reapproved 1989), “Standard Test Methods for Drying, Curing, or Film Formation of Organic Coatings at Room Temperature,” (date), incorporation~~ed~~ by reference approved for in section 2., Quick-Dry Enamel and Quick-Dry Primer, Sealer, and Undercoater. The tack-free time of a coating subject to the provisions of this rule shall be determined by the Mechanical Test Method of ASTM Test Method D 1640-83.
- 5.5.7 **Exempt Compounds--Siloxanes:** The exempt compounds cyclic, branched, or linear completely methylated siloxanes, will be analyzed as exempt compounds for compliance with section 3. by BAAQMD Method 43, “Determination of Volatile Methylsiloxanes in Solvent-Based Coatings, Inks, and Related Materials,” BAAQMD Manual of Procedures, Volume III, adopted 11/6/96, incorporation~~ed~~ by reference approved for in section 2., Volatile Organic Compound.
- 5.5.8 **Exempt Compounds--Parachlorobenzotrifluoride (PCBTF):** The exempt compound parachlorobenzotrifluoride, will be analyzed as an exempt compound for compliance with section 3. by BAAQMD Method 41, “Determination of Volatile Organic Compounds in Solvent Based Coatings and Related Materials Containing Parachlorobenzotrifluoride,” BAAQMD Manual of Procedures, Volume III, adopted 12/20/95, incorporation~~ed~~ by reference approved for in section 2., Volatile Organic Compound.
- 5.5.9 **Exempt Compounds:** Exempt compounds content under U.S. EPA Method 24 shall be analyzed by SCAQMD Method 303-91, “Determination of Exempt Compounds,” SCAQMD “Laboratory Methods of Analysis for Enforcement Samples,” approved 6/1/91, incorporation~~ed~~ by reference approved for in section 2., Volatile Organic Compound and subsection 5.2.
- 5.5.10 **Alternative VOC Content of Coatings:** The VOC content of coatings subject to the provisions of this rule may be analyzed either by U.S. EPA Method 24 or SCAQMD Method 304-91, “Determination of Volatile Organic Compounds (VOC) in Various Materials,” SCAQMD “Laboratory Methods of Analysis for Enforcement Samples,” approved 6/1/91, incorporation~~ed~~ by reference approved for in subsection 5.2.
- 5.5.11 **VOC Content of Coatings:** The VOC content of a coating is determined by Method 24 of appendix A of 40 Code of Federal Regulations (CFR) part 60, “Determination of Volatile Matter Content, Water Content, Density, Volume Solids, and Weight Solids of Surface Coatings,” (date), incorporated by

reference in subsection 5.2.

5.5.12 **Methacrylate Traffic Marking Coatings:** The VOC content of methacrylate multicomponent coatings used as traffic marking coatings is determined by the procedures in 40 CFR part 59, subpart D, appendix A, “Determination of Volatile Matter Content of Methacrylate Multicomponent Coatings Used as Traffic Marking Coatings,” (September 11, 1998), incorporated by reference in subsection 5.2.

5.5.13 **Surface Chalkiness:** The chalkiness of a surface shall be determined using ASTM Determination D-4214, “Photographic Reference Standard No. 1,” (date), or the Federation of Societies for Coatings Technology “Pictorial Standards for Coatings Defects,” (date), incorporated by reference in section 2, Specialty Primer.

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Table 1
VOC CONTENT LIMITS FOR ARCHITECTURAL COATINGS

Limits are expressed in grams of VOC per liter^a of coating as applied,
excluding the volume of any water, exempt compounds, or colorant added to tint bases.

Coating Category	Effective Dates					
	Current Limit	7/1/2001	7/1/2002	1/1/2005	7/1/2006	7/1/2008
Flat Coatings	250 ^b	400 ^e	100 ^e			50 ^c
Nonflat Coatings	250 ^b		150 ^c		50 ^c	
Specialty Coatings						
Bituminous <u>Roof</u> Coatings	250 ^b	50	<u>250</u>			
Bond Breakers	350		<u>350</u>			
Clear Wood Coatings						
• <u>Clear Brushing Lacquers</u>	680		<u>680</u>			
• Lacquers (including lacquer sanding sealers)	680	550	<u>550</u>	275 ^c		
• Sanding Sealers (other than lacquer sanding sealers)	350		<u>350</u>			
• Varnishes	350		<u>350</u>			
Concrete Curing Compounds	350		<u>350</u>			
Dry Fog Coatings	400		<u>400</u>			
Fire-Retardant Coatings:		250				
• Clear	650		<u>650</u>			
• Pigmented	350		<u>350</u>			
Floor Coatings	400 ^d		100 ^c		50 ^c	
Form-Release Compounds	250		<u>250</u>			
Graphic Arts Coatings (Sign Paints)	500	150	<u>500</u>			
High Temperature Coatings	420		<u>420</u>			
Industrial Maintenance Coatings	340		<u>250</u> ^c		100 ^c	
Low Solids Coatings	120 ^d	120 ^c	<u>120</u>			
Magnesite Cement Coatings	450		<u>450</u>			
Mastic Texture Coatings	300	250	<u>300</u>			
Metallic Pigmented Coatings	500		<u>500</u>			

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Coating Category	Effective Dates					
	Current Limit	7/1/2001	7/1/2002	1/1/2005	7/1/2006	7/1/2008
Multi-Color Coatings	420	250	250			
Pre-treatment Wash Primers	420	250	420			
Primers, Sealers, and Undercoaters	350		200 ^c		100 ^c	
Quick-Dry Enamels	400 ^f		250 ^c		50 ^c	
<u>Quick-Dry Primers, Sealers, and Undercoaters</u>			200			
Roof Coatings	250 ^d	50	100			
Rust Preventative Coatings	400 ^d		250 ^c 400		100 ^c	
Shellacs: • Clear • Opaque	730 550	650	730 550			
<u>Specialty Primers</u>			350			
Stains: • Clear and semi-transparent • Opaque	350 350		250 ^c 150 ^c 150			
Swimming Pool Coatings • <u>Repair and Maintenance Coatings</u>	340		340 650			
Traffic Marking Coatings	150 ^d		150			
Waterproofing Sealers: • Concrete • Wood	400	400 400	400 250 ^c			
Wood Preservatives	350		350			

^a Conversion factor: one pound VOC per gallon (U.S.) = 119.82 grams VOC per liter.

^b ~~Current SCM default limit.~~

^c ~~These limits are subject to revision based on the outcome of scheduled SCAQMD technology assessments.~~

^d ~~National rule limit as of September 18, 1999.~~

^e Units are grams of VOC per liter (pounds of VOC per gallon) of coating, including water and exempt compounds.

^f ~~Most common current district limit.~~

Compliance Advisory

**Reference Table for Determining Analogous
National Rule^a and SCM^b Categories**

<u>If your coating meets the National Rule^a definition below...</u>	<u>the following Suggested Control Measure^b category and VOC limit applies:</u>
Antenna coatings Anti-fouling coatings Anti-graffiti coatings Chalkboard resurfacers Extreme high durability coatings Flow coatings Heat reactive coatings Impacted immersion coatings Nonferrous ornamental metal lacquers and surface protectants Nuclear coatings Repair and maintenance thermoplastic coatings Thermoplastic rubber coatings and mastics	Industrial maintenance coatings
Calcimine Recoaters	Flat or Nonflat coatings (depending on gloss)
Concrete curing and sealing compounds Concrete surface retarders	Concrete curing compounds
Concrete protective coatings	Waterproofing sealers
Conversion varnishes Faux finishing/glazing	Varnishes
Quick-dry primers, sealers, and undercoaters coatings Stain controllers Sealers (including interior clear wood sealers)	Primers, sealers, and undercoaters
Low solids stains Low solids wood preservatives	Low solids coatings
Zone marking coatings	Traffic marking coatings

^a National Volatile Organic Compound Emission Standards for Architectural Coatings (40 CFR part 59, subpart D)

^b 1999 Air Resources Board Suggested Control Measure for Architectural Coatings

Attachment A

Proposed Language for ARB Staff Report

Technology Assessment

The ARB commits to working with the South Coast Air Quality Management District (SCAQMD), and any other districts that are interested, in assessing the product availability of specific future VOC limits for the following coating categories: flats; floor coatings; industrial maintenance coatings; nonflats; primers, sealers, and undercoaters; quick-dry enamels; quick-dry primers, sealers, and undercoaters; rust preventative coatings; stains; and waterproofing sealers for wood. These technology assessments will be completed one year prior to the implementation dates for the revised standards. After each technology assessment, staff shall report to the Board as to the appropriateness of maintaining the applicable future VOC limits. The technology assessment will also include, in conjunction with the architectural coatings industry, an assessment of the scientific basis for a reactivity-based architectural coatings control strategy.

Averaging Compliance Option

The ARB commits to work with the SCAQMD in the development of the SCAQMD's guidance document for implementing its averaging compliance option. The ARB further commits to working with any districts that are interested in adding a voluntary averaging compliance option into districts' architectural coating rules. Under this program, manufacturers who voluntarily choose to comply with the rule under the averaging provision would select the coatings and formulate a detailed program which would demonstrate that the total VOC emissions under the program would not exceed the emissions that would have resulted had the products been formulated to meet the VOC standards. Under the program, once approved, the manufacturers could sell products that exceed the VOC standards specified in the rule for these coatings, provided that the emissions from these high-VOC products will be sufficiently offset by the emissions from the products formulated to achieve VOC contents below the proposed standards. The ARB will investigate the possibility of an ARB-administered averaging program that would be both feasible for manufacturers and enforceable for districts. Finally, the ARB will investigate the possibility of an averaging compliance option that can be used by end-users of architectural coatings.